Georges River Foreshore Eco-engineering: A Case Study

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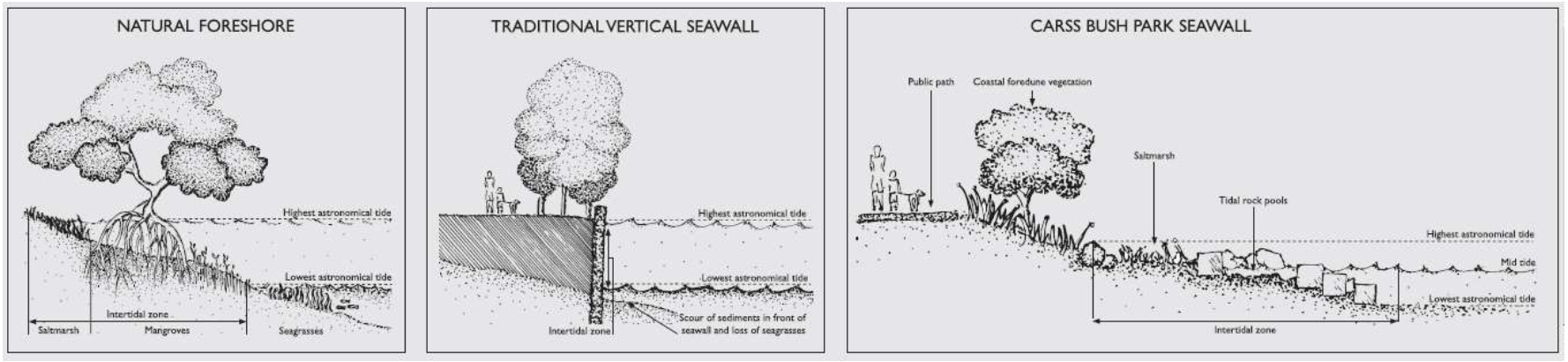
NATURAL FORESHORE
Highest astronomical tide
Lowest astronomical tide
Intertidal zone
Saltmarsh
Mangroves
Seagrasses
TRADITIONAL VERTICAL SEAWALL
Highest astronomical tide
Lowest astronomical tide
Intertidal zone
Scour of sediments in front of seawall and loss of seagrasses
CARSS BUSH PARK SEAWALL
Public path
Coastal foredune vegetation
Saltmarsh
Tidal rock pools
Highest astronomical tide
Mid tide
Lowest astronomical tide
Intertidal zone


1
5
3
4
2

Claydon Reserve (2005)

Sans Souci Park (2012)

Browne & Chapman (2011)

Dover Park East (2012)

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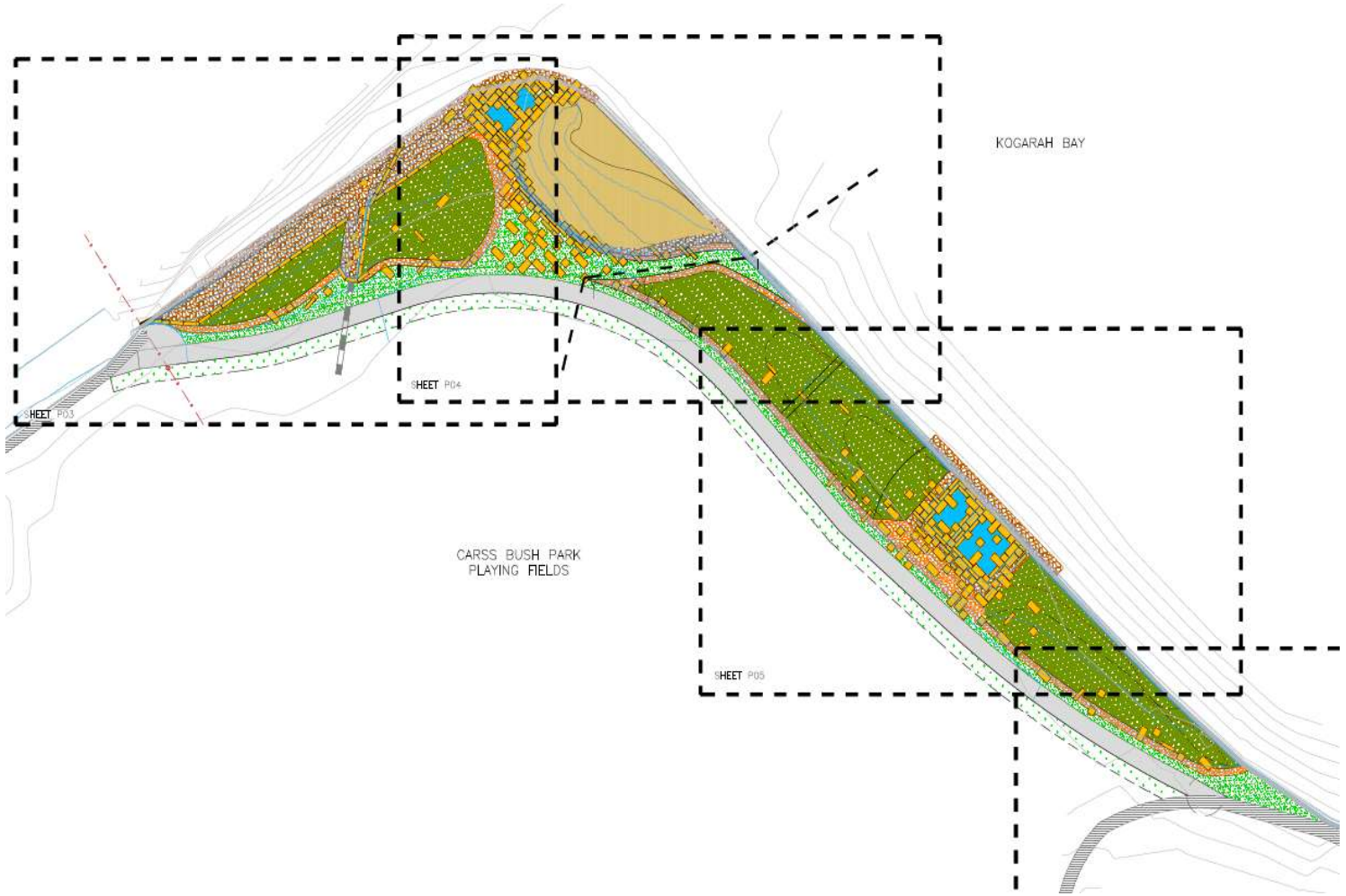
Dover Park West (2017)

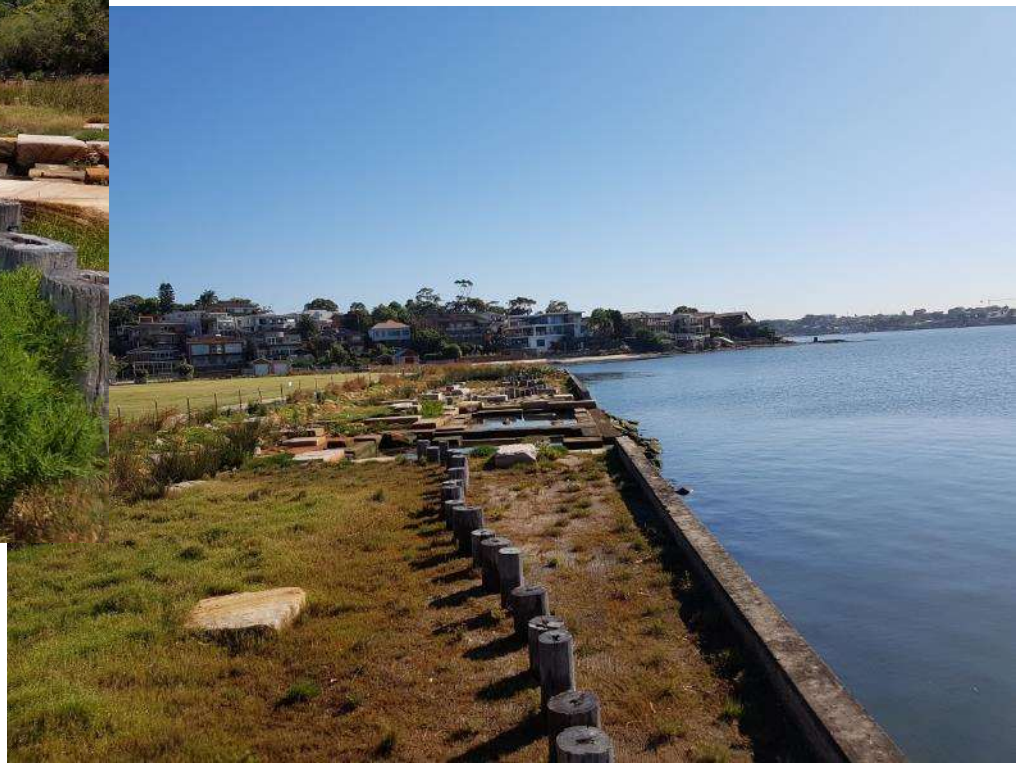
Carss Bush Park (2016 - Present)

Stage 1: Carss Bush Park playing fields foreshore naturalisation – Complete 2016

Stage 2: Carss Bush Park channel and foreshore naturalisation – Completed 2019

Stage 3: Carss Point foreshore naturalisation - Completed 2019


KOGARAH BAY
SHEET P04
SHEET P03
CARSS BUSH PARK
PLAYING FIELDS
SHEET P05



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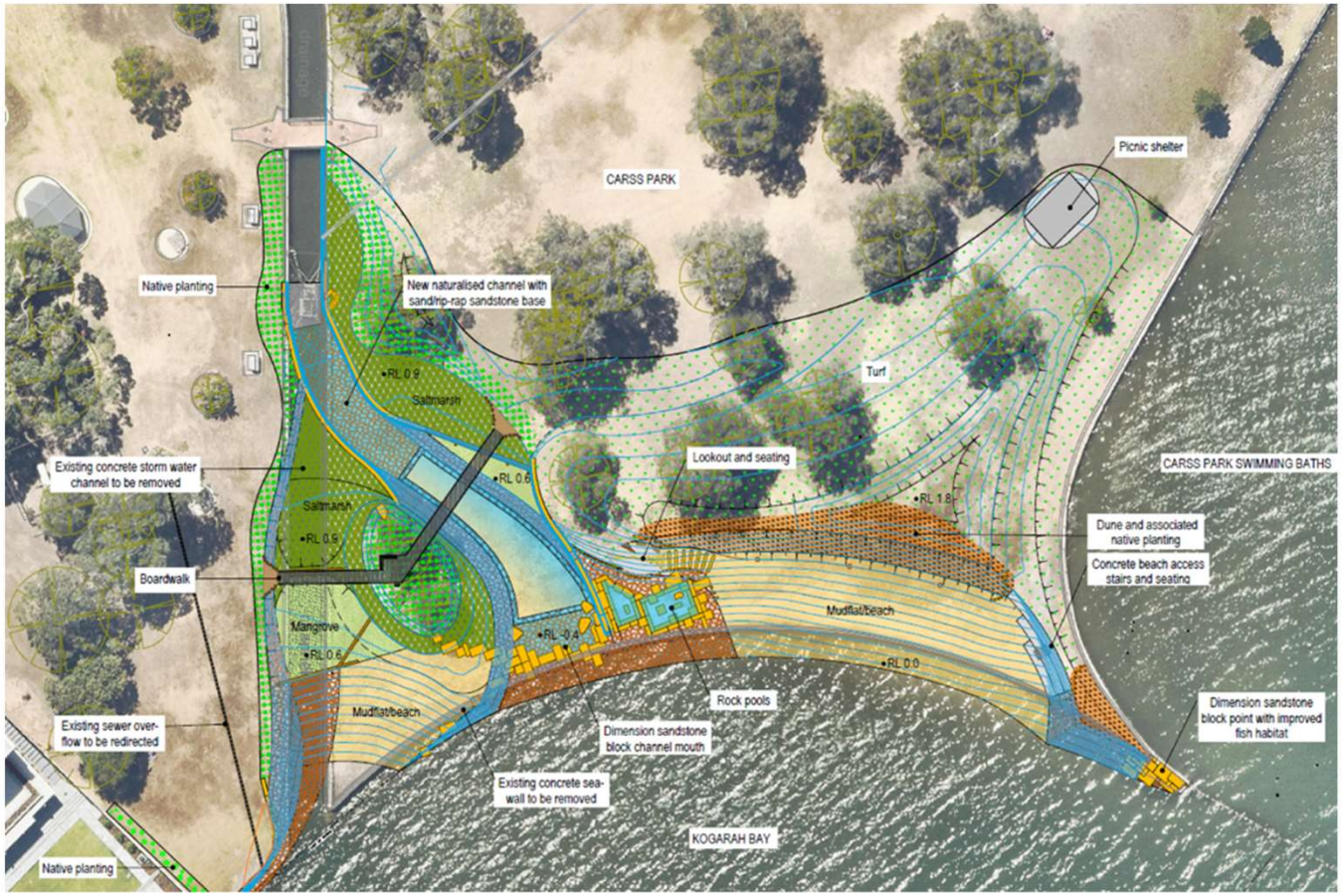
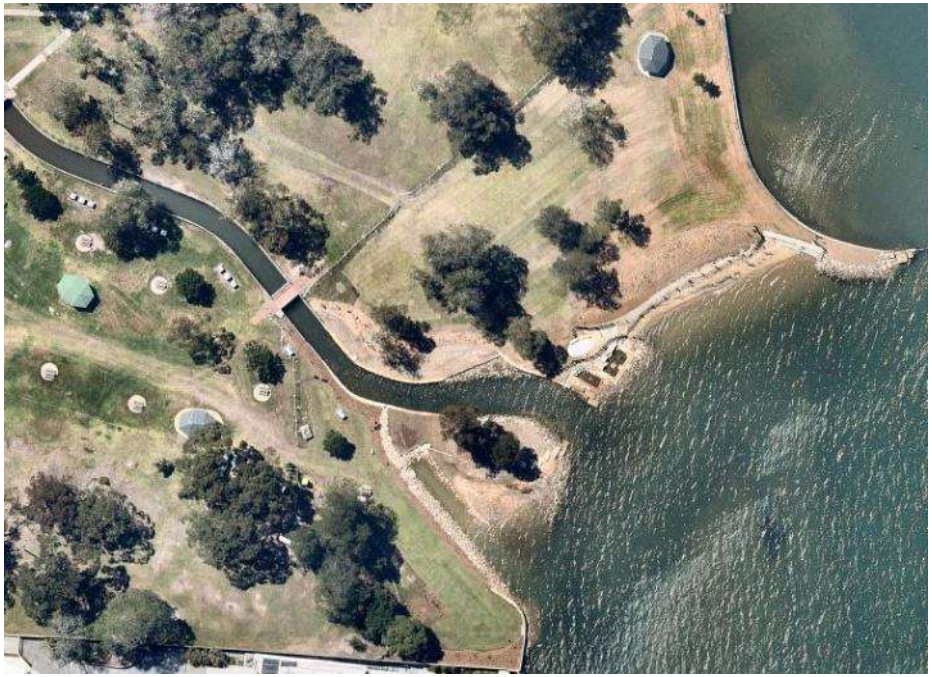

CARSS PARK
Picnic shelter
Native planting
New naturalised channel with sand/rip-rap sandstone base
RL 0.9
Saltmarsh
Turf
Lookout and seating
CARSS PARK SWIMMING BATHS
Existing concrete storm water channel to be removed
RL 0.6
RL 1.8
Saltmarsh
RL 0.9
Dune and associated native planting
Concrete beach access stairs and seating
Boardwalk
Mudflat/beach
Mangrove
RL 0.6
RL -0.4
RL 0.0
Rock pools
Mudflat/beach
Dimension sandstone block point with improved fish habitat
Existing sewer over-flow to be redirected
Dimension sandstone block channel mouth
Existing concrete sea-wall to be removed
KOGARAH BAY
Native planting



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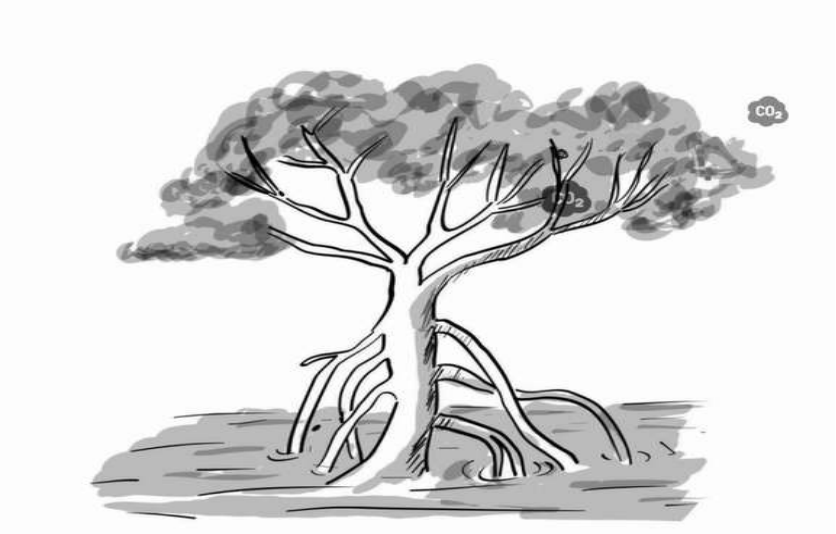
Benefits

- Introduction of mangrove, saltmarsh, coastal dune and riparian vegetation communities
- Increased complexity of intertidal foreshore including:
    - Tidal ingress onto sloped foreshore
    - Water retention at low tide
    - Horizontal platforms
    - Crevices
    - Tidal mudflat/beach
    - ‘ Naturalised’ creek line
- Increased foreshore biodiversity
- Improved passive and recreational community access and use
- Management of foreshore erosion and park subsidence
- Improved stormwater management
- Educational tool
- Community support with aesthetic design
- Funding support for future projects
- Research support and collaboration

Blue carbon – Carbon footprint and mitigation initiatives

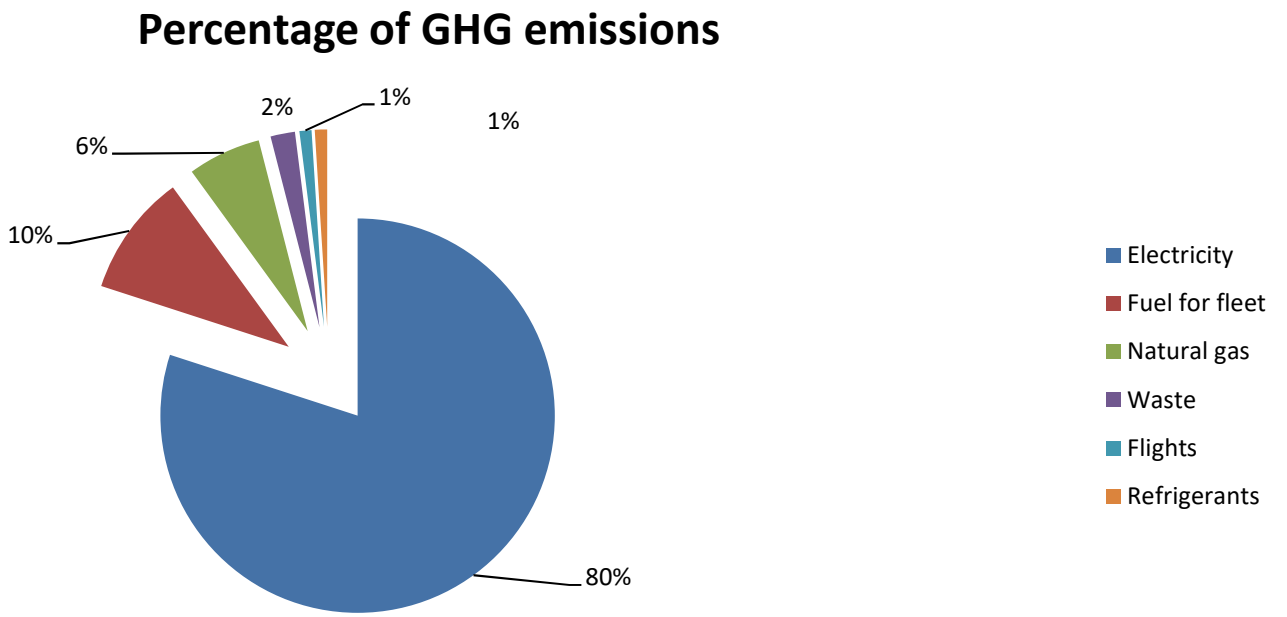
Blue carbon ecosystems

- Wetlands, saltmarshes, mangroves and seagrasses– collectively known as ‘blue carbon' ecosystems–



Can capture and store carbon 30-50 times faster than forests

Carbon footprint



Carbon Neutral claim steps

Mitigation initiatives

Opportunities

- Demonstrate sustainability and include them as part of their carbon reduction initiatives for climate change strategies
  - Management
  - Protection
  - Enhancement